

NETWORK TOPOLOGY MANAGER

ABSTRACT OF THE INVENTION

5 A network infrastructure, and methods for managing and configuring networks, are disclosed. The network infrastructure is physically wired once, and includes a plurality of interconnected switches and a plurality of devices coupled thereto, with each network interface on a device coupled to a single switch. Network traffic is forwarded between devices by programming intervening switches to enable a communication path between the devices.

10 Traffic intended for a particular device is forwarded by the intervening switches only to that device. Traffic is only forwarded between devices for which a communication path has been enabled. The network configuration, the function of a device in a network application, or the position of the device in the network topology, can be changed by programming the switches to

15 disable existing communication paths and/or enable new ones. Accordingly, networked resources are allocated as needed without changing the physical wiring of the network.